

Storm Data and Unusual Weather Phenomena

January 1999

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm
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INDIANA, Northeast

INZ003>009-012>018-020-022>027-032>034 **La Porte - St. Joseph - Elkhart - Lagrange - Steuben - Noble - De Kalb - Starke - Pulaski - Marshall - Fulton - Kosciusko - Whitley - Allen - White - Cass - Miami - Wabash - Huntington - Wells - Adams - Grant - Blackford - Jay**

02 0000EST
03 0000EST

0 0

Heavy Snow

Synoptic and mesoscale conditions on the 1st of January 1999...

The northern hemishperic longwave pattern began the year in transition as a high zonal index hinted at major changes to the longwave pattern over the New Year's Day weekend. Two potent shortwaves...one associated with the northern branch of the jet stream and the other associated with the southern branch...were progged to phase over the central plains on the 2nd of January. Lee troughing developed during the day on the 1st with the eventual surface low developing across the Texas panhandle that afternoon. Tremendous moisture was advected off the gulf of mexico during the afternoon as the low deepened. Moderate to heavy snow began to break out across the county warning area by late evening.

On the 2nd of January...intense low pressure was located across northeast Arkansas and slowly moved northeastward into northwest Indiana by late evening. Snowfall rates of 1 to 2 inches per hour were common throughout the day with even heavier snow noted as the system wrapped up and closed off over northern Illinois that evening. Nearly all the snowfall across the county warning area was due to the tremendous warm advection that occurred on the nose of a 60 knot low level jet overtop the shallow cold dome that was in place. Precipitation in areas along and east of a Lafayette Indiana to Defiance Ohio line eventually changed to freezing rain and sleet as 850 millibar temperatures warmed to above freezing. Snowfall amounts were the highest observed since the Blizzard of 1978 in many areas. Several cooperative observer stations reported all-time record 24 hour snowfalls as well. Storm totals ranged from two feet across northwest Indiana and southwest lower Michigan...12 to 18 inches across north central Indiana into south central Michigan and northwest Ohio... 6 to 8 inches across east central Indiana into western Ohio, where significant sleet and freezing rain later fell on top of the heavy snow.

Impacts on the people across the area were significant. Many rural roads remained impassable for several days. Some schools were closed for up to two weeks after the snowstorm. Many buildings... especially manufacturing warehouses and large retail stores in areas that received the heavier snow... reported collapsed roofs due to the weight of the snow. Damage estimates were not known at the time of this report.

INZ020-025-027-032 **White - Huntington - Adams - Grant**

22 2000EST
31 1200EST

2

0

2.5K

Flood

During the evening of the 22nd an automobile containing a mother and her 9 year-old son was swept into Grassy Fork Creek in southwestern Grant County. They were not able to escape from the car and drowned.

On the 22nd ice on the Tippecanoe River took skirting from mobile homes in low-lying areas. On the 23rd a man (age unknown) was missing and presumed dead possibly as a result of flooding in Adams County. On the morning of the 24th, an ice jam which swept up a boat, jet ski, and several trees, formed at a bridge on the Tippecanoe River. Basements were flooded in Warren Indiana as a result of flooding on the Salamonie River. F27VE, M9VE

MICHIGAN, Extreme Southwest

MIZ077>081

Berrien - Cass - St. Joseph - Branch - Hillsdale

02 0000EST
03 0000EST

0

0

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MICHIGAN, Extreme Southwest

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OHIO, Northwest

OHZ001>002-004>005-
015>016-024>025

Williams - Fulton - Defiance - Henry - Paulding - Putnam - Van Wert - Allen

02	0000EST	0	0	Heavy Snow
03	0000EST			

Synoptic and mesoscale conditions on the 1st of January 1999...

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OHZ004-004-004>005

Defiance - Henry

22	2200EST	0	0	17.5K	Flood
31	0000EST				

At a location above the dam on the Auglaize River in Defiance County, the crawl space of a house was flooded. A park was flooded by the Maumee River in the city of Defiance. This resulted in volunteers having to evacuate six families and then opening a Red Cross shelter. A low area on the Tiffin River was flooded near Evansport. On the afternoon of the 23rd, flooding occurred on the first floor of six homes on Catherine Drive in Liberty Center (Washington Township). Damage was mainly to carpets, walls, and furniture.

Storm Data and Unusual Weather Phenomena

February 1999

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

INDIANA, Northeast

INZ003

La Porte

11 1955EST

0

0

3K

High Wind

A SEMI TRAILER WAS BLOWN OVER ON STATE ROAD 30 IN SOUTHERN LAPORTE COUNTY. SEVERAL TREES WERE REPORTED DOWNED IN MICHIGAN CITY.

SOUTHWEST WINDS GUSTING IN EXCESS OF 55 MPH WERE RECORDED ACROSS MUCH OF THE MIDWEST AHEAD OF AN INTENSE COLD FRONT ON FEBRUARY 11TH. STRONG THUNDERSTORMS DEVELOPED ALONG AND AHEAD OF THE FRONT AS IT MOVED THROUGH ILLINOIS AND INDIANA. WINDS REMAINED HIGH IN THE WAKE OF THE FRONT DURING THE NIGHT OF FEBUARY 11TH AND IN THE EARLY MORNING HOURS OF FEBRUARY 12TH WITH OCCASIONAL GUSTS FROM THE WEST ABOVE 50 MPH.

Storm Data and Unusual Weather Phenomena

April 1999

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm
INDIANA, Northeast									
Miami County									
5 E Bennetts Switch to Wawpecong	09	0115EST			0	0	5K		Thunderstorm Wind
									Trees and power lines were blown down due to a small downburst that hit the south central part of the county.
Jay County									
Boundary City	09	0915EST			0	0	50K		Thunderstorm Wind
									A mobile home was completely destroyed by the high winds. A nearby house sustained considerable damage with several large trees blown down as well.
La Porte County									
La Porte	10	1830EST			0	0			Hail(0.75)
La Porte County									
3 NW La Porte	10	1833EST			0	0			Hail(0.75)
La Porte County									
La Porte	10	1900EST			0	0			Hail(1.50)
									Hail caused some roof and auto damage in town due to the extended hail fall with several inches accumulating in some parts of town.
St. Joseph County									
Sbn Michiana Arpt	10	1903EST			0	0			Hail(0.75)
St. Joseph County									
1 N South Bend	10	1905EST			0	0			Hail(1.25)
St. Joseph County									
Sbn Michiana Arpt	10	1906EST			0	0			Hail(1.25)
St. Joseph County									
Mishawaka	10	1918EST			0	0			Hail(0.75)
St. Joseph County									
Mishawaka	10	1919EST			0	0			Hail(1.00)
St. Joseph County									
2 NW Osceola	10	1920EST			0	0			Hail(1.00)
St. Joseph County									
1 E Mishawaka	10	1924EST			0	0			Hail(1.00)
St. Joseph County									
Osceola	10	1928EST			0	0			Hail(0.75)
Elkhart County									
1 W Elkhart	10	1932EST			0	0			Hail(1.00)
Elkhart County									
1 E Elkhart	10	1937EST			0	0			Hail(0.75)
Pulaski County									
Winamac	10	1937EST			0	0			Hail(1.75)
Marshall County									
1 N Lapaz	10	1945EST			0	0			Hail(0.75)
Elkhart County									
Wakarusa	10	1953EST			0	0			Hail(0.75)
Elkhart County									
Waterford Mills	10	2000EST			0	0			Hail(0.88)
Fulton County									
Rochester	10	2000EST			0	0			Hail(1.75)

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INDIANA, Northeast									
Fulton County Rochester	10	2000EST 2003EST			0	0			Hail(0.75)
Fulton County Talma	10	2000EST			0	0			Hail(0.75)
Fulton County 2 S Rochester	10	2003EST			0	0			Hail(1.00)
Kosciusko County Syracuse	10	2010EST			0	0			Hail(1.00)
Lagrange County Topeka	10	2014EST			0	0			Hail(1.00)
Noble County Albion to 5 ESE Albion	10	2014EST 2020EST			0	0	50K		Thunderstorm Wind
Numerous trees were blown down starting in the town of Albion and continuing along for 5 miles just south of highway 8. Several homes sustained minor damage. One mobile home 2 miles southeast of Albion was destroyed. Two farmsteads had their grain bins blown down and another farmstead had a barn destroyed by the high winds.									
Noble County Ligonier	10	2019EST			0	0			Hail(1.75)
Noble County Ligonier	10	2019EST			0	0			Hail(1.00)
Noble County Wolflake	10	2039EST			0	0			Hail(0.75)
Wabash County 2 NE North Manchester	10	2040EST			0	0			Hail(0.75)
De Kalb County Auburn	10	2055EST			0	0	20K		Thunderstorm Wind
One home had its roof blown off with several large trees and limbs down in town.									
Whitley County Churubusco	10	2057EST			0	0			Hail(0.75)
Allen County Ft Wayne	10	2105EST			0	0			Hail(1.75)
De Kalb County Auburn	10	2105EST			0	0			Hail(0.75)
Allen County 5 NE Ft Wayne	10	2115EST			0	0			Hail(1.00)
Steuben County Hamilton	10	2130EST			0	0			Hail(0.75)
Miami County Denver	11	0007EST			0	0			Hail(0.75)
Marshall County Argos	22	1530EST			0	0	3K		Thunderstorm Wind
Conservation officer reported to county sheriff that trees and power lines were down.									
Marshall County Bourbon	22	1530EST			0	0			Thunderstorm Wind (G60)
Thunderstorm wind gusts damaged two 15-inch diameter pine trees. Tree trunks were broken half way up. Two other 15-inch diameter pine trees were uprooted.									
Kosciusko County Etna Green	22	1540EST			0	0	5K		Thunderstorm Wind
Sheiff and amateur radio operator reported several trees blown down and a roof blown off of a repair shop.									

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INDIANA, Northeast

Kosciusko County

Warsaw	22	1555EST			0	0			Thunderstorm Wind (G60)
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Thunderstorm wind gusts of 55 to 60 MPH reported by an off-duty NWS employee.

Fulton County

Rochester	22	1610EST			0	0			Urban/Sml Stream Fld
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Flooding reported along State Road 110 and Old 31 north of Rochester.

Noble County

Albion	22	1625EST			0	0			Hail(0.75)
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Whitley County

Dunfee	22	1655EST			0	0			Hail(0.75)
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Spotter reported .75 inch hail in Dunfee.

Allen County

Ft Wayne	22	1725EST			0	0			Hail(0.75)
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Hail of .75 inch diameter reported by amateur radio operators at St. Francis College and at Coliseum Blvd. NW of Ft. Wayne.

Huntington County

Roanoke	22	2020EST			0	0			Urban/Sml Stream Fld
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Flooding reported by Huntington County Sheriff along US Route 24 and Roanoke Road/800N near Roanoke.

Wabash County

Liberty Mills	22	2130EST			0	0			Urban/Sml Stream Fld
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Water was reported to be over local roads in the vicinity of Liberty Mills.

Wabash County

North Manchester	22	2130EST			0	0			Urban/Sml Stream Fld
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State Road 13 was reported to be flooded south of North Manchester.

Allen County

Ft Wayne	22	2145EST			0	0			Urban/Sml Stream Fld
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U.S. Route 24 was reported to be flooded 10 miles south of Ft. Wayne.

Allen County

Ft Wayne	22	2145EST			0	0			Urban/Sml Stream Fld
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Water was reported flowing across Interstate 469 at mile marker four 8 miles south of Ft. Wayne.

A warm front across the southern Great Lakes region served as the focus for strong to severe thunderstorms. Overrunning precipitation was heavy enough to cause localized flooding over a narrow portion of northeastern Indiana. Thunderstorms training along the warm front dumped up to 2 inches of rain per hour across the region. Dew points were in the lower 60s south of the warm front and provided ample moisture for the convection to sustain itself. A low-level jet over southern Illinois and Indiana aided in the thunderstorm development.

OHIO, Northwest

Defiance County

Hicksville	10	2115EST			0	0	0		Thunderstorm Wind
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Trees and power lines were reported blown down.

Paulding County

Paulding	10	2140EST			0	0			Hail(0.75)
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Synoptic and mesoscale conditions on April 10th, 1999...

A strong low pressure system was located near St. Louis, MO during the afternoon of April 10, 1999 and was forecast to move northeast into southern Michigan by 12z on the 11th. Although the boundary layer was quite stable across northern Indiana with surface temperatures in the middle 50s and dewpoints in the low 30s... very unstable air was located south of the warm front draped through the Ohio valley. As low pressure intensified during the afternoon of the 10th...a strong low level jet (60 knots) developed from southern Illinois into central Indiana. Most unstable parcel CAPE lifted from 800 millibars were on the order of 1500 J/kg... lifted indices from -3 to -5...and amazing storm relative helicity values near 1000 m2/s2. Strong mid-level convergence in association with the upper low in Missouri and attendant 80 knot jet combined with strong low-level theta-e advection over the warm front and increasing large scale ascent ahead of the 250 millibar 130 knot jet max triggered a line of severe thunderstorms over northeast Illinois by late afternoon.

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OHIO, Northwest

This line of storms continued to intensify as they raced eastward at 40 knots. With low freezing levels in place and cooling aloft as the upper low pushed northeast...widespread severe hail fell in nearly every county across northern Indiana that evening. Two elevated supercells developed ahead of the main line in northwest Indiana early that evening and marched eastward. The first supercell tracked from Lake county east into Lagrange county before weakening. The second supercell developed further south across Jasper county and moved east into Allen county before weakening. Both were very efficient hail producers with some locations reporting several inches of hail accumulation on the ground. Additionally both produced several funnel clouds which stayed aloft likely due to the elevated nature of the convection and very stable boundary layer which prevented most of the rear flank downdraft from reaching the surface.

INDIANA, Northeast

Allen County Yoder	05	1950EST			0	0			Hail(1.25)
Allen County 5 SW Ft Wayne	05	1952EST			0	0			Hail(1.00)
Allen County Aboite	05	1955EST			0	0			Hail(1.50)
Allen County Ft Wayne	05	2000EST			0	0	0		Thunderstorm Wind
		Power lines blown down at Exit 103 on I-69							
Allen County Ft Wayne	05	2005EST			0	0			Hail(1.00)
Allen County Ft Wayne	05	2009EST			0	0			Hail(0.88)
Allen County Ft Wayne	05	2012EST			0	0			Hail(0.75)
		Intersection of Spring and St. Mary Streets							
Allen County Ft Wayne	05	2012EST			0	0			Hail(0.75)
		Reported at the Ft Wayne Zoo							
Allen County Ft Wayne	05	2026EST			0	0			Hail(0.75)
		1 mile SSE of US30/I-69 Intersection							
De Kalb County Auburn	05	2035EST			0	0			Hail(0.75)
De Kalb County Waterloo	05	2045EST			0	0			Hail(1.00)
Steuben County Pleasant Lake	05	2100EST			0	0			Hail(1.75)
Steuben County Fremont	05	2120EST			0	0			Hail(0.88)
Steuben County Clear Lake	05	2122EST			0	0			Hail(0.75)
Steuben County Fremont	05	2123EST			0	0			Hail(1.00)

Synoptic and mesoscale conditions for May 5, 1999...

A warm front extending from Dubuque Iowa to Columbus Ohio became the focus for scattered...strong convection by early evening. 00Z raobs from Lincoln Illinois and Wilmington Ohio revealed marginal instability and wind shear. Storms quickly developed by early evening with pea to marble size hail reported with several of the storms. Additional storms developed over southwestern Allen

Storm Data and Unusual Weather Phenomena

May 1999

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INDIANA, Northeast

county, Indiana where a storm split was observed. The left moving storm began to accelerate to the north and exhibited supercell characteristics. This storm was responsible for all of the severe hail reports that evening as it moved from Allen county, Indiana northward to Hillsdale county, Michigan, where it finally dissipated.

La Porte County 4 S La Porte to 4 S La Crosse	06	1040EST			0	0	10K		Thunderstorm Wind
Numerous trees and power lines down.									
La Porte County 2 SW La Porte	17	1402EST			0	0			Hail(1.00)
Elkhart County 3 NE Wakarusa	17	1422EST			0	0	3K		Thunderstorm Wind
Trees and power lines down.									
Grant County Rigdon	17	1430EST			0	0			Hail(1.75)
Elkhart County Elkhart	17	1435EST			0	0	5K		Thunderstorm Wind
Power lines down on Beardsley Rd. between Main and Cassopolis. Several trees blown down in Sturdy Oaks subdivision.									
Grant County Fowlerton	17	1445EST			0	0	10K		Thunderstorm Wind
Two roofs partially torn off.									
Grant County Gas City	17	1445EST			0	0			Hail(1.75)
Grant County 2 N Hackleman	17	1445EST			0	0	10K		Thunderstorm Wind
Trailer damaged from falling trees.									
Grant County Marion	17	1446EST			0	0			Hail(0.75)
Grant County Gas City	17	1500EST			0	0			Hail(1.75)
Wells County 1 W Bluffton	17	1525EST			0	0			Tstm Wind/Hail
Hail .075 inches in diameter and trees blown down.									
Miami County Bennetts Switch	17	1530EST			0	0			Hail(1.00)
Wabash County Treaty	17	1620EST			0	0			Hail(0.75)
Wabash County Wabash	17	1621EST			0	0			Hail(0.75)
Elkhart County Bristol	17	1810EST			0	0			Hail(0.75)
Kosciusko County 5 NW North Webster	17	1845EST			0	0			Hail(0.75)

Synopsis for May 17th...

A moist low-level atmosphere and an upper-level trough over the western Great Lakes combined to produce very unstable conditions across the region. Convection formed along a lake breeze boundary southeast of Lake Michigan. With the numerous outflow boundaries from earlier convection the thunderstorms continued to move east throughout the evening.

Allen County Ft Wayne	30	1657EST			0	0			Hail(0.75)
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INDIANA, Northeast

Allen County									
Ft Wayne	30	1701EST			0	0			Hail(1.00)

MICHIGAN, Extreme Southwest

Branch County									
Coldwater Lake	05	2129EST			0	0			Hail(0.88)

Synoptic and mesoscale conditions for May 5, 1999...

A warm front extending from Dubuque Iowa to Columbus Ohio became the focus for scattered...strong convection by early evening. 00Z raobs from Lincoln Illinois and Wilmington Ohio revealed marginal instability and wind shear. Storms quickly developed by early evening with pea to marble size hail reported with several of the storms. Additional storms developed over southwestern Allen county, Indiana where a storm split was observed. The left moving storm began to accelerate to the north and exhibited supercell characteristics. This storm was responsible for all of the severe hail reports that evening as it moved from Allen county, Indiana northward to Hillsdale county, Michigan, where it finally dissipated.

Cass County									
5 NW Dowagiac	06	1140EST			0	0	15K		Thunderstorm Wind

Several trees and power lines were blown down.

Berrien County									
5 N Berrien Center	06	1200EST			0	0	20K		Thunderstorm Wind

Several trees were blown down and one barn was damaged.

Cass County									
5 E Edwardsburg	17	1425EST			0	0	5K		Thunderstorm Wind

Power lines reported down.

Berrien County									
Countywide	17	1504EST			0	0	5K		Thunderstorm Wind

Trees reported blown down.

St. Joseph County									
Mendon	17	1525EST			0	0	1K		Thunderstorm Wind

Two to 2 1/2 foot diameter trees uprooted.

Branch County									
Coldwater	17	1615EST			0	0	10K		Thunderstorm Wind

Utility poles and trees down in Coldwater.

St. Joseph County									
Mendon	17	1625EST			0	0	2K		Thunderstorm Wind

Trees reported blown down in Mendon.

Branch County									
5 N Coldwater	17	1642EST			0	0	2K		Thunderstorm Wind

Trees reported blown down.

Hillsdale County									
Litchfield	17	1650EST			0	0	3K		Thunderstorm Wind

Trees reported blown down.

Hillsdale County									
3 NW Pittsford	17	1655EST			0	0	4K		Thunderstorm Wind

Power lines and two trees blown down between Osseo and Pittsford.

Synopsis for May 17th...

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<u>OHIO, Northwest</u>									
Paulding County									
Paulding	17	1630EST			0	0			Thunderstorm Wind (G70)
Trees reported blown down. Paulding County sheriff reported 70 mph thunderstorm wind gust.									
Putnam County									
5 NW Continental	17	1725EST			0	0	70K		Thunderstorm Wind
County EMA reported roof torn off of building and an old building destroyed by straight-line winds.									
Paulding County									
Oakwood	17	1835EST			0	0			Hail(1.50)
NWS spotter reported 1 1/2 inch diameter hail in Oakwood.									
Henry County									
Countywide	17	1929EST			0	0	20K		Thunderstorm Wind
Trees and power lines reported down countywide.									
Defiance County									
Ayersville	17	2016EST			0	0	10K		Thunderstorm Wind
Utility poles and power lines blown down.									
Defiance County									
Defiance	17	2016EST			0	0	10K		Thunderstorm Wind
Power lines blown down.									
Fulton County									
Swanton	17	2030EST			0	0			Hail(0.75)
Three-quarter inch hail reported by NWS spotter at Swanton.									
Henry County									
3 W Ridgeville Corners	17	2120EST			0	0			Hail(0.75)

Synopsis for May 17th...

A moist low-level atmosphere and an upper-level trough over the western Great Lakes combined to produce very unstable conditions across the region. Convection formed along a lake breeze boundary southeast of Lake Michigan. With the numerous outflow boundaries from earlier convection the thunderstorms continued to move east throughout the evening.

Storm Data and Unusual Weather Phenomena

June 1999

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm
INDIANA, Northeast									
White County 5 E Wolcott	01	1035EST			0	0	0		Thunderstorm Wind
			Numerous trees and power lines were downed.						
Starke County Bass Lake	01	1045EST			0	0	0		Thunderstorm Wind
			Several trees were blown down.						
Pulaski County Denham	01	1050EST			0	0	0		Thunderstorm Wind
			Several trees were downed north of town.						
Pulaski County Lakeside	01	1052EST			0	0	0		Thunderstorm Wind
			Trees were reported blown down.						
White County Brookston	01	1102EST			0	0	0		Thunderstorm Wind
			Trees were reported blown down.						
Fulton County 5 N Kewanna	01	1115EST			0	0	0		Thunderstorm Wind
			Sheriff reported trees and power lines down in the western part of the county						
White County 5 E Wolcott	01	2235EST			0	0	10K		Thunderstorm Wind
			Numerous trees and power lines blown down.						
Starke County Bass Lake	01	2245EST			0	0	0		Thunderstorm Wind
			Several trees were blown down.						
Pulaski County Denham	01	2250EST			0	0	0		Thunderstorm Wind
			Several trees down.						
Pulaski County Lakeside	01	2252EST			0	0	0		Thunderstorm Wind
			Several trees down.						
White County Brookston	01	2302EST			0	0	0		Thunderstorm Wind
			Several trees down.						
Fulton County 5 N Kewanna	01	2315EST			0	0	10K		Thunderstorm Wind
			Several trees and power lines were blown down across the western part of the county.						
Kosciusko County Milford	01	2350EST			0	0	50K		Thunderstorm Wind
			13 large trees were blown down in town. A metal roof was torn off a machine and tool shop. A pickup truck was damaged when a large tree was toppled onto it.						
Pulaski County 2 SW Lakeside	09	1710EST			0	0			Hail(0.75)
White County 3 NW Buffalo to 3 NW White Co Arpt	09	1710EST			0	0			Hail(0.75)
Blackford County 3 W Hartford City	09	1815EST			0	0	0		Thunderstorm Wind
			Several large branches and trees were blown down.						
Blackford County 5 SW Hartford City	09	1830EST			0	0			Hail(0.88)
Blackford County 3 W Hartford City	09	1830EST			0	0	0		Thunderstorm Wind

Storm Data and Unusual Weather Phenomena

June 1999

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm
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INDIANA, Northeast

Numerous trees and power lines were blown down along State Road 26.

Grant County 4 NE Matthews	09	1832EST			0	0			Hail(0.75)
Grant County 4 NE Matthews to 4 E Matthews	09	1832EST			0	0	0		Thunderstorm Wind
									Trees downed.
Grant County Gas City	09	1835EST			0	0			Hail(0.75)
INZ024 Wabash	09	1920EST			0	0	0		Flood
									Streets flooded in Wabash up to 1 foot deep.
Wabash County Somerset to Wabash	09	1920EST			0	0	25K		Thunderstorm Wind
									Numerous trees and power lines were downed across the southern part of the county.
White County Brookston	11	1430EST			0	0	5K		Thunderstorm Wind
									Trees and powerlines down in Brookston reported by spotters.
White County Monticello	11	1450EST			0	0	5K		Thunderstorm Wind
									Trees and powerlines down in Monticello reported by county sheriff department.
Noble County Rome City	12	1820EST			0	0	2K		Thunderstorm Wind
									Trees down reported by Noble County sheriff's office.
Wabash County North Manchester	12	1840EST			0	0	2K		Thunderstorm Wind
									Trees reported down in North Manchester.
Starke County 2 WNW Hamlet	12	2003EST			0	0	2K		Thunderstorm Wind
									Amateur radio SKYWARN spotter reported trees down.
Marshall County 5 SW Plymouth	12	2030EST			0	0	2K		Thunderstorm Wind
									Trees down reported by Indiana state police.

MICHIGAN, Extreme Southwest

Berrien County Galien	02	0005EST			0	0	0		Thunderstorm Wind
									Several trees and power lines were blown down.
Berrien County Galien	02	1205EST			0	0	0		Thunderstorm Wind
									Trees and power lines were reported blown down.
Cass County Cassopolis	10	2125EST			0	0	5K		Thunderstorm Wind
									Tree fell onto house at Stone Lake in Cassopolis.
Berrien County Berrien Spgs	11	1559EST			0	0	5K		Thunderstorm Wind
									Trees and power lines down in Berrien Springs.
Berrien County New Buffalo	11	1559EST			0	0	5K		Thunderstorm Wind
									Trees and power lines down in New Buffalo reported by Berrien County sheriff.

Storm Data and Unusual Weather Phenomena

June 1999

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed Injured	Estimated Damage Property Crops	Character of Storm
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MICHIGAN, Extreme Southwest

Berrien County Sawyer	11	1559EST			0 0	5K	Thunderstorm Wind Trees and power lines down in Sawyer reported by Berrien County sheriff.
Hillsdale County Hillsdale to Jerome	11	2100EST			0 0	10K	Thunderstorm Wind Trees and power lines down in northeast part of Hillsdale County.
Branch County 1 S Kinderhook	12	1800EST			0 0		Hail(0.88)
Branch County Kinderhook	12	1800EST			0 0	2K	Thunderstorm Wind SKYWARN spotter reported power lines and one tree down.
Branch County 1 S Kinderhook	12	1800EST			0 0	10K	Thunderstorm Wind SKYWARN spotter reported power lines downed on north side of Lake George. A three-foot diameter tree fell onto a garage. Parts of roofs also were damaged.
Hillsdale County Hillsdale	12	1800EST			0 0	2K	Thunderstorm Wind Power lines and a tree reported down.

OHIO, Northwest

Van Wert County 3 E Middle Pt	09	1305EST			0 0		Hail(2.00)
Putnam County Ft Jennings	09	1315EST			0 0		Hail(1.00)
Paulding County Charloe	09	1430EST			0 0	0	Thunderstorm Wind Trees blown down at intersection of County Roads 171 and 146.
Henry County Ridgeville Corners	09	1453EST			0 0		Hail(1.00)
Fulton County Archbold	09	1455EST			0 0	0	Thunderstorm Wind Power lines downed.
Henry County 2 N Ridgeville Corners	09	1515EST			0 0	0	Thunderstorm Wind Power lines downed.
Fulton County Wauseon	09	1531EST			0 0	10K	Thunderstorm Wind Tree limbs and power lines downed.
Putnam County 2 W Rimer	10	2205EST			0 0	2K	Thunderstorm Wind Sheriff reported trees down.
Williams County Edgerton	11	1925EST			0 0	10K	Thunderstorm Wind Williams County sheriff reported trees and power lines down. Some trees had fallen onto houses.
Defiance County 2 W Defiance	11	1954EST			0 0	5K	Thunderstorm Wind Defiance County sheriff reported a few downed trees and power lines.
Van Wert County Converse	12	1425EST			0 0	1K	Thunderstorm Wind Trees reported down in Converse.

Storm Data and Unusual Weather Phenomena

June 1999

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm
<u>OHIO, Northwest</u>									
Van Wert County									
Van Wert	12	1435EST			0	0			Hail(2.50)
Van Wert County									
Van Wert	12	1440EST			0	0	2K		Thunderstorm Wind
			Trees reported down in the city of Van Wert.						
Van Wert County									
Venedocia	12	1440EST			0	0			Hail(1.50)
Putnam County									
Columbus Grove	13	1405EST			0	0			Hail(1.00)
			Nickel to quarter-size hail reported by spotter between Columbus Grove and Ottawa.						
Allen County									
2 W Lima	13	1435EST			0	0	2K		Thunderstorm Wind
			Trees down in American Township reported by Allen County sheriff.						
Allen County									
Lima	13	1440EST			0	0			Hail(1.00)
Allen County									
5 NW Lima	13	1440EST			0	0	10K		Thunderstorm Wind
			Several large trees uprooted or downed. Four power poles snapped.						
Williams County									
Melbern to Stryker	13	1840EST			0	0	20K		Thunderstorm Wind
			Power lines and trees down throughout southern part of county.						

Storm Data and Unusual Weather Phenomena

July 1999

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm
INDIANA, Northeast									
Adams County 5 SE Decatur	09	1515EST			0	0	0.50K		Thunderstorm Wind
		Trees downed.							
La Porte County Michigan City	21	1852EST			0	0			Hail(0.75)
La Porte County Kingsford Hgts	23	1805EST			0	0			Thunderstorm Wind (G70)
Starke County Bass Lake	23	1815EST			0	0	0		Thunderstorm Wind
		Power lines downed.							
La Porte County Michigan City	23	1915EST			0	0	0		Thunderstorm Wind
		Trees blown down.							
La Porte County La Porte to La Crosse	23	1925EST			0	0	0		Thunderstorm Wind
		Several trees were blown down.							
St. Joseph County Countywide	23	1950EST			0	0	0		Thunderstorm Wind
		Numerous trees were blown down across the county.							
De Kalb County Garrett	25	0130EST			0	0	0		Thunderstorm Wind
		Several trees blown down.							
Allen County New Haven	26	1535EST			0	0	0		Thunderstorm Wind
		Power lines downed.							
Allen County Monroeville	26	1545EST			0	0	30K		Thunderstorm Wind
		Numerous trees and several semi trailers knocked over.							
La Porte County La Porte	27	2240EST			0	0			Hail(1.00)
Elkhart County 2 NE Elkhart	28	2010EST			0	0			Hail(0.88)
Marshall County Tyner	28	2045EST			0	0	10K		Thunderstorm Wind
		Several trees and power lines were blown down in town.							
Elkhart County Millersburg	28	2055EST			0	0	20K		Thunderstorm Wind
		Many trees and power lines were blown down in town.							
Noble County Kimmell	28	2100EST			0	0	0		Thunderstorm Wind
		Several trees were downed.							
Kosciusko County Etna Green to Atwood	28	2130EST			0	0	25K		Thunderstorm Wind
		Power lines were downed from Etna Green to Atwood.							
Marshall County 2 NW Inwood to Inwood	28	2140EST			0	0	10K		Thunderstorm Wind
		Several trees were blown down in and northwest of Inwood.							
Wabash County 5 S North Manchester	28	2335EST			0	0	0		Thunderstorm Wind

Storm Data and Unusual Weather Phenomena

July 1999

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm
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INDIANA, Northeast

Trees blown down along CR 700 N.

La Porte County									
Rolling Prairie	30	1538EST			0	0			Hail(0.75)

MICHIGAN, Extreme Southwest

Hillsdale County									
Jonesville	23	1655EST			0	0	25K		Thunderstorm Wind

Several tree limbs...power lines...and traffic lights were blown down.

Branch County									
Coldwater	23	1804EST			0	0			Hail(1.75)

Hillsdale County									
3 NW Pittsford to Osseo	28	1920EST			0	0			Hail(1.00)

Tree limbs were also blown down.

St. Joseph County									
Constantine	28	2010EST			0	0			Hail(1.50)

Hillsdale County									
Camden to Cambria	29	2142EST			0	0			Hail(0.75)

OHIO, Northwest

Putnam County									
Kalida	06	1334EST 1339EST			0	0			Hail(0.88)

Van Wert County									
Van Wert	06	1359EST			0	0			Thunderstorm Wind (G50)

Putnam County									
2 SW Glandorf to 2 SE Glandorf	06	1400EST 1430EST			0	0	2K		Thunderstorm Wind

Part of a garage roof was blown off 1.5 miles south of Glandorf. Several large trees with diameters of between 1 and 2 feet were downed in this area.

Allen County									
3 NE Cairo to 3 ENE Cairo	06	1415EST 1420EST			0	0	2K		Thunderstorm Wind (G50)

Wind damage occurred as 2 storms merged. Several trees and power lines were downed between Cairo and Beavertown.

Van Wert County									
2 NE Willshire	09	1510EST			0	0	0.50K		Thunderstorm Wind

Untied mobile home blown over

Van Wert County									
Venedocia	09	1535EST			0	0	5K		Thunderstorm Wind

Trees and power lines downed

Allen County									
Delphos	09	1545EST			0	0			Hail(0.88)

Allen County									
Lima	09	1550EST			0	0	5K		Thunderstorm Wind

Trees and power lines down throughout county

Allen County									
Lima	21	1815EST 1825EST			0	0	4K		Thunderstorm Wind

Canopy on a shopping mall was blown down along with a portion of the wall that it was attached to. 4 blocks to the south several large tree limbs were sheared off from only the lowest 20 feet of the trees.

Storm Data and Unusual Weather Phenomena

July 1999

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm
<u>OHIO, Northwest</u>									
Putnam County									
Pandora	21	1820EST			0	0	0.20K		Thunderstorm Wind
		Wind damage - trees downed.							
Fulton County									
Wauseon	23	1742EST			0	0	0		Thunderstorm Wind
		Numerous trees and limbs were blown down.							
Fulton County									
Fayette	24	2340EST			0	0	0		Thunderstorm Wind
		Trees blown down.							
Fulton County									
Wauseon	24	2345EST			0	0	0		Thunderstorm Wind
		Trees blown down.							
Putnam County									
Columbus Grove	25	0115EST			0	0			Thunderstorm Wind (G53)
Allen County									
Lima	25	0130EST			0	0	25K		Thunderstorm Wind
		Many power lines were downed.							
Allen County									
Lima	25	0130EST			0	0	20K		Thunderstorm Wind
		TV tower blown down.							
Allen County									
Lima	25	0130EST			0	0	0		Thunderstorm Wind
		Numerous trees blown down.							
Allen County									
1 W Beaverdam	25	0140EST			0	0	20K		Thunderstorm Wind
		Garage blown down. Car inside suffered moderate damage.							
Allen County									
3 E Lima to Allen Co Arpt	25	0140EST			0	0	0		Thunderstorm Wind
		Fourteen 4-8 foot diameter trees were uprooted along the Auglaize River.							
Williams County									
Pioneer	29	2142EST			0	0			Hail(0.75)
Fulton County									
Delta	29	2146EST			0	0	0		Thunderstorm Wind
		Power lines blown down.							
Fulton County									
Swanton	29	2146EST			0	0			Hail(1.00)
Williams County									
Montpelier	29	2157EST			0	0			Hail(0.75)
Williams County									
Montpelier	29	2157EST			0	0	0		Thunderstorm Wind
		Power lines and tree limbs down.							

Storm Data and Unusual Weather Phenomena

August 1999

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

INDIANA, Northeast

Steuben County

Orland **04** **1059EST** **0** **0** **Hail(0.75)**

Steuben County

2 N Angola **04** **1110EST** **0** **0** **0.50K** **Tstm Wind/Hail**

3/4 inch hail along with high winds were reported on Interstate-69 north of Angola. A gas tank was overturned at Hogback Lake 4 miles west of Angola.

MICHIGAN, Extreme Southwest

St. Joseph County

Centreville **04** **1010EST** **0** **0** **Hail(0.75)**

St. Joseph County

5 SE Centreville **04** **1020EST** **0** **0** **0.50K** **Thunderstorm Wind**

Trees down at Lake Templain between Centreville and Sturgis.

St. Joseph County

Centreville **04** **1010EST** **0** **0** **Hail(0.75)**

Storm Data and Unusual Weather Phenomena

September 1999

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Killed	Number of Persons Injured	Estimated Damage Property	Crops	Character of Storm
INDIANA, Northeast									
Cass County									
7 NW Logansport	28	1520EST			0	0	0		Thunderstorm Wind
			Several trees blown down.						
Fulton County									
4 W Fulton	28	1537EST			0	0	25K		Thunderstorm Wind
			Many trees blown down. Several homes sustained minor to moderate damage from fallen tree limbs.						
Fulton County									
4 E Fulton	28	1550EST			0	0	100K		Thunderstorm Wind
			This storm initially developed over white county and intensified as it moved rapidly northeast eventually becoming supercellular across southwestern Fulton county. Initially the public reported a tornado in the Nyona lake area but it was later confirmed by a NWS storm survey team that a microburst had occurred in that area from 2 miles north of the lake to 1 mile south. Numerous trees had limbs broken off and several large pine trees were snapped off taking down many power lines. Extensive damage also occurred to three homes and at least two vehicles from fallen trees. Additionally three boats on the lake were flipped over.						
Miami County									
Macy	28	1600EST			0	0	10K		Thunderstorm Wind
			Several trees and power lines blown down.						
Whitley County									
4 E South Whitley	28	1630EST			0	0			Thunderstorm Wind (G57)
Whitley County									
4 E South Whitley	28	1630EST			0	0	0		Thunderstorm Wind
			A few tree limbs and one tree were blown down.						
Whitley County									
Columbia City	28	1652EST			0	0			Thunderstorm Wind (G61)
Whitley County									
Columbia City	28	1652EST			0	0	50K		Thunderstorm Wind
			Several trees were blown down with many tree limbs down on houses. Extensive damage also occurred to power lines throughout the city with some residents going without power for the entire night.						
Whitley County									
Churubusco	28	1702EST			0	0			Hail(0.75)
De Kalb County									
Auburn	28	1725EST			0	0	0		Thunderstorm Wind
			Two trees were reported blown down.						
Allen County									
2 W Hometown	28	1734EST			0	0	0		Thunderstorm Wind
			A few trees were reported blown down.						
White County									
2 S Brookston	28	1845EST			0	0			Hail(1.00)
			Isolated supercell thunderstorms developed along a prefrontal boundary the afternoon of the 28th. The strongest storm initiated over White county around 3:00 pm EST and tracked rapidly northeast at 30 knots. This storm was responsible for producing several microbursts as well as dropping torrential rain and small hail throughout its lifetime before it finally dissipated as it crossed the Indiana/Ohio state line that evening. In some places... the hail accumulated several inches deep. The hardest hit areas were across central into eastern Fulton county, especially the Nyona lake area and in Columbia City. Crop losses were likely high especially to the soybean crop but no dollar estimates were available for this storm.						

OHIO, Northwest

Defiance County									
Ney	28	1820EST			0	0			Hail(0.75)

Storm Data and Unusual Weather Phenomena

October 1999

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

INDIANA, Northeast

St. Joseph County

South Bend	13	0843EST			0	0			Hail(0.75)
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Elkhart County

Wakarusa	13	0913EST			0	0			Hail(0.75)
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Steuben County

12 NE Angola	13	0951EST			0	0			Hail(0.75)
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